

ABSTRACT OF THE DISCLOSURE

The switch mode power supply includes a switching cell SC controllable cyclically and including only one inductive element L and several individually selectable outputs. During each conduction cycle, a total power level corresponding to the sum of the individual power levels respectively required by all the outputs OUT_i during this cycle is injected into the inductive
5 element L, the outputs requiring a non-zero individual power level are selected successively and in a predetermined order that is identical for all the cycles, and, at each selected output, the corresponding individual power level is produced.